

Missouri Department of Transportation
Patrick K. McKenna, Director

1.888.ASK MODOT (275.6636)

January 5, 2018

Dear Research Partner:

The Missouri Highways and Transportation Commission requests proposals from qualified organizations—namely private consultants, firms, universities, and research organizations—to furnish services as described in the following request for proposals to be coordinated by the Research Unit of the Construction and Materials Division.

Please submit a proposal for project **TR201813** entitled, “**Leader-Follower TMA System.**” Your submittal must include a work plan, the proposed project team and its background, and any related projects now active or recently completed by your firm.

The selection committee will make its choice based on the provided criteria.

Please deliver all proposals to the Research Administrator indicated in the attachment by **February 6, 2018 10:00 AM (CST)**. More information about project contracting in general can be found at: www.modot.mo.gov/services/OR/orRFP.htm.

Sincerely,



Bill Stone
Research Administrator
Attachment



Our mission is to provide a world-class transportation experience that delights our customers and promotes a prosperous Missouri.

www.modot.org

CCO Form: CM09
Approved: 04/11 (AR)
Revised: 01/15 (ASB); 04/17 (BDG)
Modified:

**REQUEST FOR PROPOSALS
Leader-Follower TMA System
TR201813**

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LIST OF ACRONYMS

FHWA	Federal Highway Administration
FT	Follow Truck
LT	Lead Truck
MHTC	Missouri Highways and Transportation Commission
NCHRP	National Cooperative Highway Research Program
MoDOT	Missouri Department of Transportation
RFP	Request for Proposals
TMA	Truck Mounted Attenuator
V2V	Vehicle to Vehicle

**SECTION (1):
GENERAL DESCRIPTION AND BACKGROUND**

(A) Request for Proposal: This document constitutes an RFP from qualified organizations to conduct the **TR201813 Leader-Follower TMA System** study for the MHTC and Missouri Department of Transportation (MoDOT). MHTC reserves the right to reject any and all proposals for any reason whatsoever.

(B) Background: MHTC is seeking a qualified Offeror who can provide a Leader-Follower TMA System. The objective of this RFP is to provide a NCHRP 350 Level 3 compliant Leader-Follower TMA System capable of operating a driverless rear advanced warning truck in mobile highway operations as described in Traffic Application TA-35a (https://library.modot.mo.gov/RDT/RFP/TA-35a_RFP_Exhibit.pdf). The system shall consist of one (1) Lead Truck (LT) and one (1) Rear Advanced Warning Truck called the Follow Truck (FT). The goal is to avoid operator injury by eliminating the need for a human operator in the FT.

It is the intent of this RFP to have the successful Offeror enter into a service Agreement with MHTC (hereinafter “Resulting Agreement”), to supply a Leader-Follower TMA System as outlined herein.

MoDOT’s mobile and slow moving operations, such as striping, sweeping, bridge flushing and pothole patching, are critical for efficient and safe operation of the highway transportation system. MoDOT’s slow moving operations have been crashed into over 80 times since 2013 resulting in many injuries to MoDOT employees. A successfully implemented Leader-Follower TMA System will eliminate all injuries to MoDOT employees in FT’s provided appropriate Statutory authority. MoDOT has already taken many steps to reduce these crashes by adding lights, audible alerts, and additional conspicuity markings, but distracted driving and increased traffic volumes continue to pose more of a risk to our employees every day.

Though we will continue to work to find ways to avoid these crashes, we have a responsibility to our employees to look for ways to minimize or eliminate their risk of injury. MoDOT is interested in piloting a Leader-Follower TMA System that could lead to the elimination of a MoDOT driver from the rear advanced warning truck. MoDOT has statutory authority to deploy a Leader-Follower TMA system as long as a licensed driver is in the driver’s seat with the ability to manually take over control of the vehicle.

MoDOT will evaluate the system. MoDOT may involve a third party for assistance in evaluating the system. The Offeror is encouraged to assist with the testing process.

(C) Fiscal Year: MoDOT’s fiscal year runs from July 1-June 30.

(D) Contract Period and Budget: The Contract Period for the performance of the services described in this RFP is from the date of the fully executed Resulting Agreement through March 16, 2020. The successful Offeror shall perform any and all the services listed herein as often as requested by MHTC for the entire duration of the Contract Period as defined herein at the

Guaranteed-Not-To-Exceed Prices submitted by the successful Offeror in response to **SECTION 4: PRICE PAGE** of this RFP.

(E) RFP Schedule: The following RFP Schedule of Events represents MoDOT’s best estimate of the schedule that shall be followed. The time of day for the following events shall be between 7:30 am and 4:00 pm, Central Standard Time unless otherwise noted. See Section 3 (A) for more details. MoDOT reserves the right at its sole discretion to expand this schedule, as it deems necessary, without any notification except for the deadline date for submitting a proposal. Time is of the essence for responding to the RFP within the submission deadlines.

Date:	Action:
January 5, 2018	MoDOT posts RFP to the website: www.modot.mo.gov/services/OR/orRFP.htm
January 16, 2018 4:00 PM (CST)	Written comments or questions must be submitted to MoDOTResearchRFP@modot.mo.gov
January 24, 2018	MoDOT will post responses publicly on the website: www.modot.mo.gov/services/OR/orRFP.htm It is the sole responsibility for all Offerors to check the website for any and all questions and responses throughout the procurement process.
February 6, 2018 10:00 AM (CST)	Submission deadline for proposals.
February 21, 2018	MoDOT will notify submitters about project selection, or if needed, about interviews to finalize selection.

(F) Project Schedule: The following is an estimate of the project timeline or information on key dates within the project, presuming the project starts March 15, 2018. Proposals need to include a work plan with a proposed timeline. For a sample of a work plan template, see link in Section (G). Changes to our estimated project timeline below will be considered, however, timeline extensions cannot be guaranteed. The project timeline will be discussed and finalized during the kickoff meeting.

Date:	Milestone:
March 30, 2018	A kick off meeting with MoDOT will be scheduled to discuss project requirements and deliverables. The dates of key milestones and deliverables will be determined from this meeting.
June 29, 2018	Quarterly report due.

Date:	Milestone:
September 28, 2018	Quarterly report due.
December 31, 2018	Quarterly report due.
March 1, 2019	Interim presentation must be done by this date.
March 29, 2019	Quarterly report due.
June 28, 2019	Quarterly report due.
September 30, 2019	Quarterly report due.
December 16, 2019	Draft final report and summary report are due. The draft documents shall be submitted to MoDOT approximately 6 weeks prior to the final report.
February 3, 2020	Final report and summary report are due. The final documents shall be due approximately one month before the end of the contract. This is to allow all billing to be completed prior to the end of the project.
March 16, 2020	Final invoice due.
March 16, 2020	Contract ends.

(G) Project Deliverables:

For report and plan templates and forms, see: www.modot.mo.gov/services/OR/orTemplates.htm

Email Communications: E-mail and phone communications between the Principal Investigator(s) and MoDOT contacts as necessary are required to provide on-going updates of progress throughout the project.

Data Management Plan: The plan is a formal document that describes the data that is acquired, created or produced during the project, specifies who owns it and who can access it as well as information on how it will be described, managed, analyzed, stored, shared and preserved during and after the project is over. Please refer to templates on website.

Quarterly Reports: Quarterly reports should be submitted throughout the project on the last day of March, June, September and December. The quarterly reports are not intended to replace any additional correspondence between the research team and MoDOT needed to keep the project moving. Please refer to template on website.

Interim Presentation: An interim presentation shall be scheduled near the mid-point of the project to update MoDOT on the progress and the direction of the project. The purpose of the

interim presentation is to evaluate the progress and determine if any mid-project corrections are necessary.

Draft Final Report and Research Summary: These drafts should be final products except for revisions based on MoDOT's review. A final report must include a completed Technical Report Documentation page. Please refer to templates on website.

Final Report/Final Research Summary: After MoDOT's review is complete and documents have been edited to MoDOT's satisfaction, final documents should be submitted as Word and PDF documents (unless otherwise instructed). Please refer to summary template on website.

Final Presentation: May be required. The contractor will present the results, recommendations, and implementation ideas to MoDOT and other stakeholders. The contractor will coordinate location, date, and meeting fees with MoDOT. For stakeholder and agency participants, any travel and lodging fees are to be covered by individual attendees or their firms. MoDOT and stakeholders will provide feedback to the contractor, especially related to implementation.

**SECTION (2):
SCOPE OF WORK**

(A) Services: The successful Offeror agrees to provide to MHTC the following services:

Provide a fully functional NCHRP 350 Test Level 3 Leader-Follower TMA system capable of operating a driverless rear advanced warning vehicle in mobile highway operations as described in TA-35a (https://library.modot.mo.gov/RDT/RFP/TA-35a_RFP_Exhibit.pdf). The complete system delivered to MoDOT shall include, but is not limited to, two (2) trucks, TMA, hardware, software, training plan and evaluation plan. Note that MoDOT will pay for and provide the trucks and TMAs through our existing truck replacement plan (see 2B). For the purposes of this RFP, the vehicles will be operated manually while traveling to and from the work locations. Once operating in the work zone with the leader-follower activated, speeds will typically be less than 15 mph.

(B) Specific Requirements: The Offeror will provide to Construction and Materials an electronic copy of a program proposal which will help bring the project to its successful completion.

The task descriptions below are intended to provide guidance in development of the research. For report templates and a standard form, see:

www.modot.mo.gov/services/OR/orTemplates.htm

MoDOT will provide at their expense the two trucks and TMAs. MoDOT will work with the successful Offeror on the TMA model to be used. The Offeror shall install the Leader-Follower components including, but not limited to, actuators, software, electronics, and Vehicle to Vehicle (V2V) communication equipment on the MoDOT provided trucks and TMAs. The installation should not void the truck manufacturer's warranty. If the Offeror's equipment or technology causes damage to the truck, the Offeror is responsible for repairs. MoDOT can provide a low mileage, newer, Class 7 truck within four weeks of contract execution from its existing fleet. One can be ordered from a MoDOT vendor and will have a 120-180 day lead time but will delay the schedule. MoDOT will be responsible for one time expenses related to shipping the MoDOT trucks to and from a location within the contiguous United States chosen by the successful Offeror. Trucks currently provided under MoDOT contracts with manufacturers/vendors are:

International – Workstar (Class 7)
Built in Garland, TX
Darren Gosbee – 331-332-2242 – darrengosbee@navistar.com

Freightliner - 114SD (Class7)
Built in Portland, OR & Cleveland, NC
David Snyder – 803-578-3256 – david.snyder@daimler.com

Mack - Granit MHD (Class 7)
Built in Macungie, PA
Rod Brearman – Rodney.brearman@volvo.com

Danielle Rodrigues – Danielle.rodrigues.2@volvo.com
Western Star - 4700's (Class 7)
Built in Portland, OR & Cleveland, NC
Ben Smith – 803-578-3233 – benjamin.smith@daimler.com

If the trucks, TMA, or Leader-Follower TMA system technology (including, but not limited to, GPS units, mapping units, actuators, computers, etc.) is damaged by a third party or MoDOT staff, MoDOT will be responsible for repairs provided the Leader-Follower TMA system didn't contribute to the damage. If the truck, TMA, or Leader-Follower technology is damaged by the Offeror staff, the Offeror will be responsible for the repairs. The Offeror shall be responsible for all repairs to the Leader-Follower TMA system technology components provided the failure was not caused by a third party or MoDOT's staff. MoDOT will review incidents through our normal investigative process and will have sole authority to determine causation. The Offeror is encouraged to and should assist MoDOT with any necessary investigation.

Task 1: Prepare schedule

Work Plan and Schedule based on MoDOT providing trucks from our existing fleet.

A work plan will be developed which details implementation of the following tasks as well as the resources and schedule required to carry them out.

- Task 1, 2 & 3 – completed by June 1, 2018
- Task 4, 5 & 6 completed by March 1, 2019
- Task 7 – completed by November 1, 2019
- Task 8 – completed by February 1, 2020

Task 2: Describe systems

Describe cybersecurity, V2V system, failsafe systems & adherence to national standards and protocols to include, but not limited to:

- Describe how safety is ensured if one or multiple components fail.
- Explain how the communication system works around obstacles such as tractor trailers, bridges, hills and trees.
- Explain how the security of V2V communication is addressed.
- Describe non-line of sight functionality and reliability of V2V communications.
- Describe how V2V communication system operates in the vicinity of similar frequencies.
- Explain adherence to national standards and/or anticipated national standards.
- Describe the quality and durability standards used for the various components.
- Explain the approach to recently released "Federal Automated Vehicles Policy":
<https://www.transportation.gov/sites/dot.gov/files/docs/AV%20policy%20guidance%20PDF.pdf>

Task 3: Develop training and testing plans

Develop training and testing plan.

- Provide training plan to be approved by MoDOT.
- Provide testing plan for the controlled environment testing to be approved by MoDOT. The testing plan shall outline various metrics used to evaluate the system. These metrics shall include, but are not limited to, FT crash avoidance, GPS denied environments, non-line of sight communication, TMA impact recognition, e-stop performance, accuracy of distance at various increments from LT to FT on straightaways and on curves, accuracy of offset from LT to FT on straightaways and curves at various increments, reliability and latency of system under various acceleration and deceleration scenarios. MoDOT will provide a controlled roadway system in the Kansas City or Sedalia regions. MoDOT will prepare a Controlled Roadway Test Report outlining the test results.
- Provide a plan for the live traffic deployment to be approved by MoDOT. MoDOT will provide mobile work zones during the 2019 construction season, or sooner, on Interstates and divided 4-lane Major Roadways in the Kansas City Region.

Task 4: Provide minimum NCHRP 350 Level 3 compliant Leader-Follower TMA system equipment and technology on two (2) MoDOT provided trucks

Provide at a minimum NCHRP 350 Test Level 3 compliant Leader-Follower TMA System (LT and FT). The LT and FT will be MoDOT provided dump bed equipped Class 7 trucks with following minimum specifications and functionality:

- Secure, non- line of sight communication functionality with the ability to successfully operate in the vicinity of similar frequencies.
- Trucks must retain the ability to perform multiple functions including snow removal and salt spreading. Testing will not be conducted during snow removal operations, but the technology needs to be constructed to withstand winter operations. MoDOT will be responsible for providing and installing any additional equipment for these purposes. MoDOT will provide a NCHRP 350 Level 3 or MASH compliant TMA. MoDOT will provide and install all warning lights and the arrow board. The arrow will meet the following requirements:
<http://www.modot.org/business/materials/pdf/MGS/MGS0608.pdf>
- The LT and FT shall weigh between 19,000-20,833 pounds and meet the TMA manufacturer requirements. The LT and FT may weigh more provided their weight meets the TMA manufacturer requirements. If ballast is added, it must be certified by a Registered Professional Engineer that it is designed to withstand the impact forces for which the TMA is rated. The Offeror is responsible for ensuring proper truck weight.
- The FT will follow the track of the LT at prescribed distances remotely specified by the LT operator via User Interface (UI).
- The FT shall have lateral accuracy of 6 inches or better.
- Follow distance accuracy shall have an accuracy of plus or minus 2 feet or better when the trucks are operating at consistent speeds and not accelerating. When accelerating or decelerating, accuracy of plus or minus 10 feet is acceptable.
- Only MoDOT employees will be allowed in the LT and FT driver's seat while in operation.

- MoDOT will install a video camera in the cab of the FT to provide video documentation. The successful Offeror is encouraged to, and may install additional monitoring equipment to document performance.
- The UI must be user friendly and easily manipulated by the LT operator or passenger.
- Follow distance should be 5', 20', 100', 150', 200', 300', 400', 500', 600', 700', 800', 900', 1000', 1100', 1200', 1300', 1400' and 1500'. Follow distances are measured from the rear of the deployed attenuator on the LT to the front of the FT.
- No lateral offset adjustment is required.
- Ability to temporarily 'drop' the FT (neutral with parking brake applied) at a specified location to allow LT to clear a sight distance concern such as before a curve or near a hill. The LT operator will set a waypoint where the FT is to stop as they pass over the location. Once the work trucks are clear of the concern, the FT needs to catch up to the specified distance and continue routine operations. This 'catch up' speed should be approximately 20 mph.
- The operator of the LT shall have the ability to emergency stop the FT.
- Ability to operate in driverless mode, continuously and seamlessly in GPS denied environments without the need for remote or external intervention.
- Redundant navigation systems used to provide seamless and continuous driverless operation in the event one system fails.
- The FT must have vehicle take over functionality for the operator in the driver seat. A MoDOT operator will be in the FT at all times while in motion on roadways open to the public.
- Provide only frontal collision avoidance on the FT by braking. No collision avoidance is required on the LT.
- Arrow panel indication on FT shall mirror the LT arrow panel indication.
- FT turn signals are to be activated at same time as LT turn signals are activated.
- Truck shall apply brake and hazard lights upon attenuator impact.
- Provide emergency disengagement ability of the autonomous system so the operator can take over control.
- The Offeror shall provide a full 24 month warranty that commences upon acceptance of the completed ATMA equipment and technology by the Commission. If at any time during the 24 month warranty period the system cannot be run in autonomous mode due to component failure or it fails to meet the test criteria in Task 6, the Offeror shall repair the components at Offeror's sole cost and expense and ensure that the ATMA equipment and technology is in proper working condition. The warranty shall include replacement of all hardware and software components, including the cost of labor. The warranty shall not be applicable in instances where ATMA equipment is damaged by MoDOT or a third party during the warranty period.

Task 5: Train MoDOT staff

Train MoDOT staff in the operation of the LT and FT TMAs. Training is expected to include approximately 10-20 people in one location in the Kansas City or Sedalia regions of Missouri. Training will include system operation and maintenance.

Task 6: Test system on controlled roadway in the KC and/or Sedalia regions

Execute testing plan developed in Task 3 and subsequently perform the roadway evaluation on a controlled roadway that has very limited to no traffic. MoDOT will provide a controlled roadway system in the Kansas City or Sedalia areas. Only MoDOT employees will be allowed to be in the driver's seat of the LT or FT during operation. The test is considered successful if all elements meet the accuracy and function requirements outlined in Task 4 and minimum of 32 consecutive hours of operation over several days without the need for our operator to take over control due to poor performance of the leader-follower system. If a problem occurs and the operator is required to take over control due to a system problem, the problem shall be corrected and another 32 hour test period is required. MoDOT and the Offeror will jointly conduct the testing and prepare a summary of the test and findings.

Task 7: Deploy system in live work zones

Upon successful testing and evaluation on a controlled roadway, deploy the Leader-Follower system in live mobile work zones on Interstates and divided highways. Only MoDOT employees will be allowed to be in the driver's seat of the LT or FT during operation. Opportunities to deploy in the striping operation are nearly daily, weather permitting, from April through October. Less frequent deployment opportunities exist November through March on other mobile operations. Success of the pilot is defined as continuing to meet the accuracy and functionality requirements outlined in Task 4 and 250 consecutive hours of operation without the need for our operator to take over control due to poor performance of the leader-follower system. This task will be conducted over multiple months. If a problem occurs and the operator is required to take over control due to a system problem, the problem shall be corrected and another 250 test period is required. For safety purposes, MoDOT reserves the right to require another 32 hour test period on a controlled roadway if problems occur during the live testing.

Task 8: Reporting

Reporting as described in section 1(G).

(C) Administration of Program: The Offeror will consult MHTC's representative regarding any concerns involved with the administration of the services provided pursuant to this RFP.

**SECTION (3):
PROPOSAL SUBMISSION INFORMATION**

(A) SUBMISSION OF PROPOSALS:

- (1) **Submission Deadline:** Proposals must be emailed by 10:00 AM (Central Standard Time) according to email time stamp by the submission date in the RFP Schedule to the Research Administrator's attention (Bill Stone) at: MoDOTResearchRFP@modot.mo.gov. Please reference the project title and number since more than one RFP may be due at one time. Electronic proposals are required.
- (2) **Submission Confirmation:** You will receive an email confirmation after your proposal has been received. If you do not receive such a confirmation by 12 noon (Central Standard Time) on the day of the deadline, please contact us at MoDOTResearchRFP@modot.mo.gov as soon as possible. Your submission should not be considered received until you have received your email confirmation.
- (3) **Electronic Signatures:** As part of the eAgreements process, MoDOT uses an electronic signature tool, DocuSign, for signing agreements electronically. All parties of the agreement must agree to sign electronically in order to utilize the electronic signature option. If your proposal is selected, you will be informed about how to obtain your credentials for electronic signatures (including how to become a MoDOT vendor if you are not already).
- (4) **Submission of All Data Required:** The Offeror must respond to this RFP by submitting all data required in paragraph (B) below for its proposal to be evaluated and considered for award. Failure to submit such data shall be deemed sufficient cause for disqualification of a proposal from further consideration.
- (5) **Public Inspection:** The Offeror is hereby advised that all proposals and the information contained in or related thereto shall be open to public inspection and that MHTC does not guarantee nor assume any responsibility whatsoever in the event that such information is used or copied by individuals person(s) or organization(s). Therefore, the Offeror must submit its proposal based on such conditions without reservations.
- (6) **Clarification of Requirements:** Any and all questions regarding specifications, requirements, competitive procurement process, or other questions must be directed to the Research Administrator at MoDOTResearchRFP@modot.mo.gov Please reference the project title and number with your inquiry.

(B) REQUIRED ELEMENTS OF PROPOSAL

(1) **Work Plan:** A narrative style description must be included of how the Offeror will work with MoDOT in order to fulfill project-specific requirements. The work plan shall include all items outlined in Section 2 and recognize the ultimate authority of MoDOT to approve the work plans. In order to show feasibility, a timetable setting forth appropriate milestones shall be included in Offeror's proposal, with sufficient detail explaining how Offeror will meet those timelines/milestones.

- (2) **Organization’s Project Experience:** The proposal must clearly identify the Organization’s experience in offering the services requested in this RFP during the past three (3) years. The description should include a list of the agencies which your organization has served during this time period or currently serves. Please highlight any work you have done with other state agencies or local governments.
- (3) **Team Member Experience:** Please list all team members (including subcontractors) proposed to work on the project. Attach licenses, certifications and resumes for key personnel.
- (4) **Organization’s Client References:** Proposals should indicate the name, title, and telephone number of at least three clients within the past three years.
- (5) **Submission Criteria:** Proposals must be no more than <10> pages with a font size no less than 11 points. This length limit does not include the forms for Proposal Submission, Organization’s Project Experience, Team Member Experience, Organization’s Client References, and cover letter (if included, one page maximum). Proposals must be submitted as one combined PDF document. The submission should only include the required documents organized in the following order: 1) Proposal Submission Form; 2) Cover Letter (Optional; 1 page maximum); 3) Work Plan; 4) Price Page; 5) Organization’s Project Experience; 6) Team Member Experience; and 7) Organization’s Client References.

(C) EVALUATION CRITERIA AND PROCESS

- (1) **Evaluation Factors:** Any agreement for services resulting from this RFP shall be awarded to the Offeror providing the best proposal. After determining responsiveness, proposals will be evaluated in accordance with the following criteria:

A. Evaluation Criteria: Any agreement for services resulting from this RFP shall be awarded to the Offeror providing the best proposal to MHTC as determined by the highest evaluation points accumulated. After determining responsiveness, proposals will be evaluated in accordance with the following criteria and maximum points per each criterion:

Evaluation Criterion Description	Maximum Points
Experience, Expertise and Reliability	30
Proposed Method of Performance	40
Proposed Fee	30

Correct proposal submission is one of the evaluation criteria. If submission instructions are not followed, the Offeror risks an automatic 10 point deduction (out of 100 total points) when points are awarded during the Proposal Evaluation Process.

- (2) **Historic Information:** MHTC reserves the right to consider historic information and facts, whether gained from the Offeror's proposal, question and answer conferences, references, or other sources, in the evaluation process.
- (3) **Responsibility to Submit Information:** The Offeror is cautioned that it is the Offeror's sole responsibility to submit information related to the evaluation categories and that the MHTC's representative is under no obligation to solicit such information if it is not included with the Offeror's proposal. Failure of the Offeror to submit such information may cause an adverse impact on the evaluation of the Offeror's proposal.
- (4) **Proposal Review/Evaluation:** MHTC will select a group of individuals to comprise the proposal review team. MHTC may, in its sole discretion, form a subgroup of the proposal review team, consisting of one or more team members, to comprise a separate proposal evaluation team that would be responsible for evaluating proposals with regard to compliance with RFP requirements. All evaluation team members will use the evaluation criteria stated above and present the evaluations to the review team for further action in the proposal evaluation and contract award process. If MHTC opts to not create a separate subgroup proposal evaluation team, the proposal review team shall also act as the proposal evaluation team.

(D) PRICING

- (1) **Cost Estimate:** The Offeror must submit a proposed cost estimate for all services defined in the Scope of Work. This estimate must be shown on Section (4) Price Page, of this proposal which must be completed, and returned with the Offeror's proposal. A detailed budget will be developed at a later date (for template, see: www.modot.org/services/OR/orTemplates.htm)
 - A. MHTC shall not make any payment to the successful Offeror in advance of the services rendered by the successful Offeror.
 - B. Each Offeror is responsible for its own expense in preparing, delivering or presenting a proposal, and for subsequent interviews or negotiations with MHTC, if any, as provided for in this RFP.

**SECTION (4):
PRICE PAGE**

Note: The Offeror may use this page as a form in the proposal submittal. The Offeror may also use their own standard form to detail the cost estimate.

(A) The Offeror shall provide a guaranteed, not-to-exceed total price for completing Tasks 1-8. All costs associated with providing the required services shall be included in the stated guaranteed, not-to-exceed total prices. The delivery location for the Leader-Follower TMA System is:

Missouri Department of Transportation
600 NE Colbern Road
Lee’s Summit, MO 64086

(1) **Itemized Cost:** The Offeror shall provide an itemized breakdown below of each of the guaranteed, not-to-exceed total prices detailing the services involved and the costs associated with the services. Offeror may use additional pages if necessary.

Tasks 1, 2 and 3: Prepare schedule, describe systems, develop training and testing plans	\$
Task 4: Provide minimum NCHRP 350 Level 3 compliant Leader-Follower TMA system equipment and technology on two (2) MoDOT provided trucks.	\$
Task 5: Train MoDOT staff.	\$
Task 6: Test system on controlled roadway in the KC and/or Sedalia regions.	\$
Task 7: Deploy system in live work zones.	\$
Task 8: Reporting	\$
Guaranteed Not To Exceed Total Price	\$

(2) **Method of Payment:** A 35% lump sum payment of the Guaranteed Not To Exceed Total Price will be made upon successful completion of Tasks 1-6. A 60% payment of the Total Price will be made upon successful completion of Task 7. The final 5% payment of the Total Price will be made upon completion of Task 8. If Tasks 1-6 are successfully completed and Task 7 is not completed (as defined within that Task), the Offeror shall reimburse MoDOT for the entire 35% payment and remove the leader-follower equipment and technology from the two MoDOT trucks at its expense.

**SECTION (5):
AGREEMENT REQUIREMENTS**

This RFP shall be governed by the following contract provisions. The award of this RFP is subject to a post-award negotiated contract. These same contract provisions will appear in the post-award negotiated contract. If the parties are unable to agree to terms in the post-award contract, MHTC shall reserve the right to cancel the award of the RFP and contract and select a different Offeror.

(A) MHTC's Representative: MoDOT's Research Administrator, Bill Stone, is designated as MHTC's representative for the purpose of administering the provisions of the Agreement as defined in Paragraph (E) of this section. MHTC's representative may designate other persons having the authority to act on behalf of MHTC in furtherance of the performance of the Agreement. The Offeror shall fully coordinate its activities for MHTC with those of the Construction and Materials Division. As the work of the Offeror progresses, advice and information on matters covered by the Agreement shall be made available by the Offeror to the Construction and Materials Division throughout the effective period.

(B) Release to Public: No material or reports prepared by the Offeror shall be released to the public without the prior consent of MHTC's representative.

(C) Assignment: The Offeror shall not assign or delegate any interest, and shall not transfer any interest in the services to be provided (whether by assignment, delegation, or novation) without the prior written consent of MHTC's representative.

(D) Status as Independent Contractor: The Offeror represents itself to be an independent contractor offering such services to the general public and shall not represent itself or its employees to be an employee of MHTC or MoDOT. Therefore, the Offeror shall assume all legal and financial responsibility for taxes, FICA, employee fringe benefits, workers' compensation, employee insurance, minimum wage requirements, overtime, or other such benefits or obligations.

(E) Components of Agreement: The Agreement between MHTC and the Offeror shall consist of: the RFP and any written amendments thereto, the proposal submitted by the Offeror in the response to the RFP and the post-award contract agreement signed between the parties. However, MHTC reserves the right to clarify any relationship in writing and such written clarification shall govern in case of conflict with the applicable requirements stated in the RFP or the Offeror's proposal. The Offeror is cautioned that its proposal shall be subject to acceptance by MHTC without further clarification.

(F) Amendments: Any change in the Agreement, whether by modification or supplementation, must be accompanied by a formal contract amendment signed and approved by the duly authorized representative of the Offeror and MHTC.

(G) MBE/WBE Participation Encouraged:

1. Offerors are encouraged to submit copies of their existing affirmative action programs, if any. Offerors are also encouraged to directly hire minorities and women as direct employees of the Offerors.
2. Offerors are encouraged to obtain minority business enterprise (MBE) and women business enterprise (WBE) participation in this work through the use of subcontractors, suppliers, joint ventures, or other arrangements that afford meaningful participation for M/WBEs. Offerors are encouraged to obtain 10% MBE and 5% WBE participation.
3. Regardless of which persons or firms, if any, that the Offeror may use as subcontractors or suppliers of goods or services for the services to be provided, the Offeror ultimately remains responsible and liable to MHTC for the complete, accurate and professional quality/performance of these services.

(H) Nondiscrimination: The Offeror shall comply with all state and federal statutes applicable to the Offeror relating to nondiscrimination, including, but not limited to, Chapter 213, RSMo; Title VI and Title VII of Civil Rights Act of 1964 as amended (42 U.S.C. Sections 2000d and 2000e, *et seq.*); and with any provision of the “Americans with Disabilities Act” (42 U.S.C. Section 12101, *et seq.*).

(I) Executive Order: The Offeror shall comply with all the provisions of Executive Order 07-13, issued by the Honorable Matt Blunt, Governor of Missouri, on the sixth (6th) day of March, 2007. This Executive Order, which promulgates the State of Missouri’s position to not tolerate persons who contract with the state engaging in or supporting illegal activities of employing individuals who are not eligible to work in the United States, is incorporated herein by reference and made a part of this Agreement.

1. By signing this Agreement, the Offeror hereby certifies that any employee of the Offeror assigned to perform services under the contract is eligible and authorized to work in the United States in compliance with federal law.
2. In the event the Offeror fails to comply with the provisions of the Executive Order 07-13, or in the event the Commission has reasonable cause to believe that the Offeror has knowingly employed individuals who are not eligible to work in the United States in violation of federal law, the Commission reserves the right to impose such contract sanctions as it may determine to be appropriate, including but not limited to contract cancellation, termination or suspension in whole or in part or both.

(J) Incorporation of Provisions: The Offeror shall include the provisions of Section (3), paragraph I of this Agreement in every subcontract. The Offeror shall take such action with respect to any subcontract as the Commission may direct as a means of enforcing such provisions, including sanctions for noncompliance.

(K) Non-employment of Unauthorized Aliens: Pursuant to Section 285.530, RSMo., no business entity or employer shall knowingly employ, hire for employment, or continue to employ an unauthorized alien to perform work within the State of Missouri. As a condition for the award of any contract or grant in excess of five thousand dollars by the State or by any political subdivision of the State to a business entity, or for any business entity receiving a state-

administered or subsidized tax credit, tax abatement, or loan from the state, the business entity shall:

1. By sworn affidavit and provision of documentation, affirm its enrollment and participation in a federal work authorization program with respect to the employees working in connection with the contracted services. E-Verify is an example of a federal work authorization program. The business entity must affirm its enrollment and participation in the E-Verify federal work authorization program with respect to the employees proposed to work in connection with the services requested herein by providing acceptable enrollment and participation documentation consisting of **completed** copy of the E-Verify Memorandum of Understanding (MOU). For business entities that are not already enrolled and participating in a federal work authorization program, E-Verify is available at <https://www.uscis.gov/e-verify>.
2. By sworn affidavit, affirm that it does not knowingly employ any person who is an unauthorized alien in connection with the contracted services.

(L) Proof of Lawful Presence for Sole Proprietorships and Partnerships: If the business entity is a sole proprietorship or partnership, pursuant to Section 208.009, RSMo., each sole proprietor and each general partner shall provide affirmative proof of lawful presence in the United States. Such sole proprietorship or partnership is eligible for temporary public benefits upon submission by each sole proprietor and general partner of a sworn affidavit of his/her lawful presence on the United States until such lawful presence is affirmatively determined, or as otherwise provided by Section 208.009, RSMo.

(M) Bankruptcy: Upon filing for any bankruptcy or insolvency proceeding by or against the Offeror, whether voluntarily, or upon the appointment of a receiver, Offeror, or assignee, for the benefit of creditors, MHTC reserves the right and sole discretion to either cancel the Agreement or affirm the Agreement and hold the Offeror responsible for damages.

(N) Law of Missouri to Govern: The Agreement shall be construed according to the laws of the state of Missouri. The Offeror shall comply with all local, state and federal laws and regulations relating to the performance of the Agreement.

(O) Cancellation: MHTC may cancel this Agreement at any time for a material breach of contractual obligations or for convenience by providing the Offeror with written notice of cancellation. Should MHTC exercise its right to cancel the contract for such reasons, cancellation will become effective upon the date specified in the notice of cancellation sent to the Offeror.

(P) Venue: No action may be brought by either party concerning any matter, thing or dispute arising out of or relating to the terms, performance, nonperformance or otherwise of the Agreement except in the Circuit Court of Cole County, Missouri. The parties agree that the Agreement is entered into at Jefferson City, Missouri, and substantial elements of its performance will take place at or be delivered to Jefferson City, Missouri, by reason of which the Offeror consents to venue of any action against it in Cole County, Missouri.

(Q) Ownership of Reports: All documents, reports, exhibits, etc. produced by the Offeror at the direction of MHTC's representative and information supplied by MHTC's representative shall remain the property of MHTC.

(R) Confidentiality: The Offeror shall not disclose to third parties confidential factual matters provided except as may be required by statute, ordinance, or order of court, or as authorized by MHTC's representative. The Offeror shall notify MHTC immediately of any request for such information.

(S) Nonsolicitation: The Offeror warrants that it has not employed or retained any company or person, other than a bona fide employee working for the Offeror, to solicit or secure the Agreement, and that it has not paid or agreed to pay any percentage, brokerage fee, gift, or any other consideration, contingent upon or resulting from the award or making of the Agreement. For breach or violation of this warranty, MHTC shall have the right to annul the Agreement without liability, or in its discretion, to deduct from the Agreement price or consideration, or otherwise recover the full amount of such fee, commission, percentage, brokerage fee, gift or contingent fee.

(T) Conflict of Interest: The Offeror covenants that it presently has no actual conflict of interest or appearance of conflict of interest and shall not acquire any interest, directly or indirectly, which would conflict in any manner or degree with the performance of the services under this Agreement. The Offeror further covenants that no person having any such known interest shall be employed or conveyed an interest, directly or indirectly, in this Agreement.

(U) Maintain Papers: The Offeror must maintain all working papers and records relating to the Agreement. These records must be made available at all reasonable times at no charge to MHTC and/or the Missouri State Auditor during the term of the Agreement and any extension thereof, and for three (3) years from the date of final payment made under the Agreement.

1. MHTC's representative shall have the right to reproduce and/or use any products derived from the Offeror's work without payment of any royalties, fees, etc.
2. MHTC's representative shall at all times have the right to audit any and all records pertaining to the services.

(V) Indemnification: The Offeror shall defend, indemnify and hold harmless the Commission, including its members and department employees, from any claim or liability whether based on a claim for damages to real or personal property or to a person for any matter relating to or arising out of the Offeror's performance of its obligations under this Agreement.

(W) Federal Funding Accountability and Transparency Act of 2006: The (City/County/Grantee) shall comply with all reporting requirements of the Federal Funding Accountability and Transparency Act (FFATA) of 2006, as amended. This Agreement is subject to the award terms within 2 C.F.R. Part 170.

(X) Insurance Prior to contract signing, the Offeror may be asked about its ability to provide certificates of insurance which meet, or approach, the following coverages:

- a. General Liability Not less than \$500,000 for any one person in a single accident or occurrence, and not less than \$3,000,000 for all claims arising out of a single occurrence;
- b. Automobile Liability Not less than \$500,000 for any one person in a single accident or occurrence, and not less than \$3,000,000 for all claims arising out of a single occurrence;
- c. Missouri State Workmen's Compensation policy or equivalent in accordance with state law.